

Augustana Campus bids farewell to long-time dean

Christopher Thrall

On April 26 the Augustana Campus community said goodbye to retiring dean Roger Epp.

Senior university administration, representatives from municipal and provincial governments and residents from the city of Camrose gathered to celebrate the professor of 21 years and leader of the University of Alberta's Augustana Campus for the past eight. Epp's term as dean expires June 30; he will turn to a new career in the political science department on the U of A's North Campus.



Roger Epp (supplied photo)

"I was privileged to lead the Augustana campus through a period of tremendous change," said Epp, "but none of this is a solo act."

Epp's send-off was part of Augustana's annual Spring Soiree, hosted by Augustana Student Association president Sam Whittleton, and included several of Epp's colleagues, who offered their thanks for his leadership. U of A Board of Governors Chair Brian Heidecker stated that Augustana is leading the way with tremendous momentum into the future, thanks in part to Epp's leadership.

University Provost and Vice-President (Academic) Carl Amrhein spoke at length about Epp's achievements and his impact on the institutions and communities around him.

Continued on page 2

All smiles



Michael Holly

The Department of Dentistry held its 10th annual white coat ceremony at the Timms Centre for the Arts May 4 to honour the dentistry class of 2013. The ceremony features the themes of professionalism, humanism, ethics, integrity and, most symbolically, the donning of white coats for the first time.

U of A three-peats as one Canada's greenest employers

Michael Brown

For the third time in a row, the University of Alberta is gold when it comes to going green.

The U of A has once again been named one of Canada's Top 50 Green Employers by judges of the Canada's Greenest Employers competition. The designation recognizes employers that lead the

nation in creating a culture of environmental awareness, who have developed exceptional Earth-friendly initiatives, and who are attracting people to their organizations because of their environmental leadership.

"Being named one of Canada's Top 50 Greenest Employers for the third year in a row shows the university's ongoing commitment to lessening its environmental impact," said Trina Innes, director of the U of A's Office of Sustainability. "It is also great recognition of the university's sustainability success story, and is indicative of the time and energy that our institution invests in Earth-friendly initiatives like green cleaning, energy management and composting."

Some of the projects highlighted in the decision include the establishment of the Office of Sustainability to oversee and create awareness about the university's many environmental initiatives. Judges

of the greenest employers also pointed out that the university's recycling program, established in 1975, now includes an in-house recycling transfer centre to compact recyclables, and even a "green demolition" program to encourage salvage and re-use of building materials as part of on-campus renovations and demolitions.

Ensuring that the U of A remains a sustainability leader, the Office of Sustainability is collaborating to roll out new campus initiatives which include equipping grounds-maintenance electric vehicles with solar panels, overseeing an organic turf management pilot, implementing a greening the workplace program known as ecoREPs, and creating a campus-commitment program called One Simple Act on Campus to encourage students, faculty and staff to commit to one of 20 sustainable acts.

To help measure the U of A's sustainability progress alongside its post-secondary counterparts, and to see what other organizations are doing, Innes says the university is also a charter member of Sustainability Tracking, Assessment & Rating System.

"Sustainability is a journey that is about continuous improvement, and our university is dedicated to this journey and documenting our progress through STARS," said Innes. ■

"Sustainability is a journey that is about continuous improvement, and our university is dedicated to this journey."

Trina Innes

Anatomy of a green revolution

A few of the other highlights of the U of A's greenest employers recognition include:

- Adopting sustainable cleaning practices, specifically the use of environmentally friendly cleaning chemicals that meet "Green Seal" and "Environmental Choice" standards.
- Composting organic kitchen waste in university dining facilities, as well as leaves and garden waste, for later use in landscaping projects across the campus.
- Launching a naturalization project on campus that is focused on reclaiming unused and non-native vegetation areas, and re-introducing native plant species that require less maintenance and water.
- Continuing on with a multi-year \$25-million energy management program with completed projects saving over \$3.3 million in utility costs annually and reducing associated carbon-dioxide emissions by 20,000 tonnes per year.
- Ensuring that all new provincially funded campus buildings are built to at least a Leadership in Energy and Environmental Design Silver certification standard.
- Introducing a new fuel efficient car-sharing program (managed by Connect by Hertz) on the U of A North Campus to provide short-trip transportation options and encourage employees to leave their cars at home.

Meetings mean business

at Enterprise Square



folio

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(University Relations)
Marketing and Communications
6th Floor, General Services Building
University of Alberta
Edmonton, Alberta T6G 2H1

Acting Editor

Michael Brown
michael.brown@ualberta.ca

Contributors

Bev Betkowski, Michael Brown, Richard Cairney, Michael Davies-Venn, Dawn Ford, Holly Gray, Jamie Hanlon, Jane Hurl, Andrea Lauder, Ken Mathewson, Raquel Maurier, Brian Murphy, Sandra Pyskiywyw, Liza Sunley, Christopher Thrall, Laurie Wang

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Inquiries

Comments and letters should be directed to Michael Brown, acting editor, 780-492-9407
michael.brown@ualberta.ca

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Deadline: Thursday, noon, one week prior to publication
Debbie Keehn, 780-492-2325
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debbie.keehn@ualberta.ca

Billing Info

Contact Fatima Jaffer at 780-492-0448 or via e-mail at
fatima.jaffer@ualberta.ca

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Staffer finds reward in the joy she brings to others

Raquel Maurier

A staff member with the Faculty of Medicine & Dentistry has recently returned from an international goodwill trip, where she helped in the construction of a new home for a Honduran family who had been living in a cramped wood shack, and assisted in distributing gifts to thousands of children in Chile's earthquake zone.

Shirley Auvigne, a teaching and learning specialist with the faculty, has been co-ordinating the shoebox collection for Operation Christmas Child for St. Albert and district for the past three years, and has packed shoeboxes of toys, school supplies and hygiene items for more than a decade. This is the first year she's been involved in an international trip to personally deliver the gifts to children living in difficult conditions. In total, her 18-person team of Canadians delivered 8,000 shoeboxes over four days. They travelled to numerous small communities about 600 kilometres south of Santiago, which had been hit by the 2010 earthquake.

After the Chilean leg of the trip wrapped up Feb. 28, Auvigne headed to Honduras where she was the

project manager for a house was built for a single mother of three children. The 48-year-old single mother, whose name is Maria, is HIV positive and cannot get work because of her condition. Maria and her children have been living in a cramped, rundown 10-by-13-foot wooden structure with holes in the floor and roof, and no bathroom or kitchen. Auvigne's group selected the family to be the recipient of their group's fourth annual "house build."

Each year the group builds a clean, new concrete home for a family in need for free.

"Doing this work is extremely rewarding," says Auvigne. "It certainly is my passion. What I receive—to see the joy on people's faces—outweighs all the hard work. You build such a strong relationship with each family you work with. They are grateful for our efforts."

A little over four years ago, an Edmonton businessman told Auvigne he would like to donate money to a project that would help people in need, preferably in a poverty-stricken country. Days later, another businessman, Trevor Hoover, with the custom-home-building company Habitat Studio & Workshop, contacted



Shirley Auvigne (right) has been co-ordinating the shoebox collection for Operation Christmas Child for St. Albert and district for the past three years.

Auvigne and told her the company would also like to get involved with an international aid initiative. Auvigne brought the parties together, and since then, more donors have signed on.

Each year she goes to Honduras, Auvigne meets Hoover and three of his employees on site. Auvigne then manages the project and is responsible for organizing food and in-country transportation, finding a local translator and assisting on site. The home-building crew finishes its work in five

days—making trusses, installing sheet metal roofing, framing, drywalling and installing windows, doors, electrical, sinks and plumbing.

The group plans to return to Honduras for years to come because the need is so great, says Hoover.

"We could build one house each week for the rest of our lives and we would still have more work to do. That's how desperate the need is. But it is good to know we are making a difference, one house at a time." ■

Academic Women's Association names Women of the Year

Michael Brown

The Academic Women's Association chose political science professor Malinda Smith and river-ice engineer Faye Hicks as co-winners of the 2011 Woman of the Year Award during the association's annual spring banquet May 3.

Smith, who teaches international relations, comparative politics and global critical race studies, was educated in the Bahamas and the United States before completing a PhD in political science at the University of Alberta. She has published widely on equity issues, serves as the chair of the Association of Academic Staff's Equity Committee and is a member of the U of A's Employment Equity Advisory Committee. Smith is the vice-president of equity issues for the Canadian Federation for the Humanities and Social Sciences and a member of the national steering committee of the Researchers and Academics of Colour for Equity network. She is the recipient of the 1998 Black Educators Award and the 2010 Centre for Race and Culture's Anti-Racism Award.

"Dr. Smith endeavours to transform the institutional conditions of the Canadian university locally and nationally so that it will someday become a more genuinely encouraging environment for women and under-represented groups," wrote one of Smith's nominators. "Dr. Smith's leadership, advocacy, and scholarship consistently affirm her creative ability and resolve, not only to grasp the challenges that

women, Aboriginals and visible minorities face, but also to foster community support for the innovative solutions and projects she initiates in the interests of building an equitable and diverse workplace."

Hicks joined the Department of Civil and Environmental Engineering at the U of A in 1989 as the first female tenure-track professor in the Faculty of Engineering. As a member of the Water Resources Engineering Group, her research has focused on advancing knowledge in river-ice processes and hydraulics, through experimental, numerical and field studies. She has published more than 100 articles in refereed journals and conference proceedings and has presented 25 invited talks in Canada and abroad. Twenty of the 45 engineering graduate students Hicks has supervised have been women; she has also mentored many women undergraduate and WISEST summer students.

In 2009, Hicks was the Hynes Lecturer at the Canadian Rivers Institute and awarded a Killam Professorship. In 2008, she was awarded the Camille A. Dagenais Award, the Canadian Society for Civil Engineering's highest award in hydrotechnical engineering, and a Premier's Silver Award of Excellence from the Government of Alberta. She has been awarded the Canadian Geophysical Union-Hydrology Section's Gerard Medal three times (1999, 2005 and 2011) and twice won a Faculty of Engineering Undergraduate Teaching Award (1993 and 2009).

"Dr. Hicks' wide range of research experience and design knowledge provides her with a wealth of information that she uses to captivate and stimu-



Malinda Smith (left) and Faye Hicks were named the Academic Women's Association Women of the Year.

late students," wrote her nominator. "The results from student evaluations make it clear that she is an extremely effective teacher."

In addition to the positive written comments she receives from her students, Hicks has an excellent record in the numerical results of her evaluations. She was ranked consistently among the top five per cent in her department in teaching for the fundamental question concerning the excellence of the instructor.

"Dr. Hicks personifies the true qualities of a mentor, teacher and leader within the university—a champion for the promotion of women in science and engineering," wrote her nominator. ■

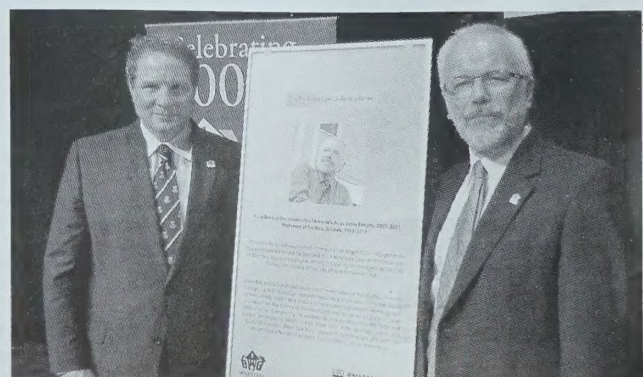
Under Epp Augustana has 'had a transformative effect on the university'

Continued from page 1

In recognition of Epp's work and commitment, the U of A has named the new Forum boardroom The Dr. Roger Epp Conference Room. A painting created by his wife, Rhonda Harder-Epp, will hang inside.

Camrose Mayor Marshall Chalmers and Bill Elliot, mayor of Wetaskiwin—who convened a regular city council meeting early so that his entire council could attend the farewell—thanked Epp for his tireless advocacy. Hobbema resident and former student Bruce Cutknife brought a gift from the Maskwachees Cultural College: a blanket, named "Big Medicine," in appreciation of Epp's efforts in reaching out to the Aboriginal community. Yvonne Becker thanked Epp on behalf of her colleagues at Augustana Campus for his unusual levels of skillfulness and selflessness, and for creating and sharing a vision that encompassed everyone as participants. "You didn't just build buildings," she said; "you made them home for us."

"Under his leadership," said Marc Arnal, dean of Campus Saint-Jean, "the Augustana campus has grown in so many ways and had a transformative effect on the university as a whole." ■



Provost Carl Amrhein presents outgoing Augustana dean Roger Epp with a placard that renames the new Forum boardroom the Dr. Roger Epp Conference Room.

Certain stem-cell treatments can cause the body to attack itself

Raquel Maurier

Researchers in the Faculty of Medicine & Dentistry have made an important discovery that provides a new understanding of how our immune system “learns” not to attack our own body, and this could affect the way doctors treat patients with autoimmune diseases and cancer.

When patients undergo chemotherapy for cancer or as part of experimental therapies to treat autoimmune diseases such as diabetes and lupus, the treatment kills the patients’ white blood cells. What can be done afterwards is to give these patients blood stem cells through transplantation. Stem cells are taken from patients and then injected back into them, the theory being that the patients’ immune systems won’t attack their own cells, and the stem cells can get to work healing their bodies.

However, U of A medical researchers Govindarajan Thangavelu, Colin Anderson and their collaborators discovered that if a particular molecule is not working properly in T-cells, the

body will attack itself. This is significant for stem-cell transplantation treatment because it means the immune systems of the patients could consider their own cells “foreign” and initiate an attack. T-cells are supposed to protect people and animals from things invading their bodies. This research demonstrates that if these cells become unregulated because they are missing a molecule, it can lead to autoimmunity—which is particularly dangerous in scenarios where patients have lost white blood cells such as when they are being treated for autoimmune diseases or cancer.

“Your own cells would be killing you,” says Thangavelu, a PhD student specializing in immunology who was the first author in the research study recently published in the peer reviewed *Journal of Autoimmunity*. “What we found is if this molecule is absent in T-cells, if the pathway isn’t intact, it will cause severe autoimmunity to the subject’s own body. In essence, subjects become allergic to their own cells.”

Anderson, the principal investigator and an associate professor with both the Alberta Diabetes Institute



Govindarajan Thangavelu (pictured), Colin Anderson and their collaborators discovered that if a particular molecule is not working properly in T-cells the body will attack itself.

and Department of Surgery, added: “The ability of our immune system to attack dangerous microbes while not attacking our own cells or tissues is a delicate balance. Restarting the immune system after wiping it out in patients with autoimmune diseases or cancer requires re-establishing this appropriate balance. We discovered that a particular immune system molecule is critical to prevent the immune system from attacking our own cells or tissues when the immune system is restarted. If that molecule is missing,

the immune system will wreak havoc on the body.”

Thangavelu has won awards for this research. He was invited to present his work at an international conference of immunology in Japan last year. He has also travelled to the United Kingdom to talk about his findings with the medical community. This research was funded by the Juvenile Diabetes Research Foundation, the Canadian Institutes of Health Research, Alberta Innovates-Health Solutions and the Alberta Diabetes Institute. ■

Study shows youth not that environmentally engaged

Bev Betkowski

They’re socially engaged and represent the next generation. But young people aren’t necessarily leading guardians of the environment, a University of Alberta study shows.

A random survey of 350 students done on the U of A campus revealed a 10 per cent lower level of participation in environmentally friendly activities than exists in the general public. As well, 70 per cent of the students felt it was too costly to live a more sustainable lifestyle, and 45 per cent felt it took too much time. A further 16 per cent consider their environmental impact a low priority.

Though a values scale showed that 76 per cent of the students surveyed felt strongly about preserving the environment, they didn’t appear to be acting on that conviction.

“Even though students exhibit high values in environmental concern, they still don’t exhibit the environmentally sustainable behaviour that would be predicted by those values,” said Scott Wilson, one of the researchers who conducted the study for a fourth-year undergraduate project in the Department of Rural Economy.

While similar studies don’t appear to have been done at other post-secondary institutions, the researchers hypothesize that “this kind of result would likely come up across most universities,” Wilson noted.

Though the majority of students surveyed cited budget constraints or other factors—such as not having a say in household decisions—for not taking measures such as purchasing organic food, they did show high rates of participation in some ways, such as civic involvement (attending public rallies, volunteering) and using public transit or riding bicycles. However, they didn’t have a high rate of participation in other low-cost, environmentally friendly measures such as reducing water or mending and reusing clothing.

“There is more that students or any young person on a budget can do to be environmentally responsible,” Wilson said. “U of A students and likely other students in general are aware and do have pro-environmental behaviours. But many have a self-reported gap between what they would like to do and what they feel they can do.”

The study recommends that issues of cost, knowledge and time for students be addressed. For instance, on-campus education campaigns could be launched, focusing on how students can save money by being environmentally friendly. Other measures include developing tangible campus-greening projects and increasing basic environmental curriculum for all students, Wilson said.

“Instilling environmentally favourable habits at the university level now will encourage the maintenance and growth of these behaviours over a lifetime,” he added. ■

Relief on the way for cancer patients suffering from dry mouth

Sandra Pysklywyc

For patients suffering from cancer in the mouth or throat, a recent study shows that a treatment called submandibular gland transfer will assist in preventing a radiation-induced condition called xerostomia.

Also known as dry mouth, xerostomia occurs when salivary glands stop working. University of Alberta researcher Jana Rieger likens the feeling of xerostomia to the after-effects of having surgery and anesthetic, specifically having a dry mouth, except the feeling is permanent.

While the importance of healthy saliva glands may be an afterthought for some patients when battling cancer, the long-lasting effects create a number of problems when they are in remission.

“We need saliva to keep our mouths healthy,” said Rieger. “Without saliva, people can lose their teeth, dentures don’t fit properly, and the ability to swallow and speak is severely altered.”

The study conducted by Rieger, a speech language pathologist in the Faculty of Rehabilitation Medicine, looked at functional outcomes—speech changes, swallowing habits and the quality of life of patients with mouth and throat cancers—as they received two different types of treatments prior to and during radiation.

The first group of patients underwent the submandibular gland transfer. This method was pioneered by Hadi Seikaly and Naresh Jha at the University of Alberta in 1999. The transfer

involves moving the saliva gland from under the angle of the jaw to under to the chin. Prior to this procedure, the saliva gland was in line for the radiation. “Most patients, when they are cured of cancer, complain of one major thing: dry mouth,” Seikaly says.

The second group in the study took the oral drug salagen. Rieger says “studies have shown in the past that if this drug was taken during radiation, it might protect the cells in the salivary glands.”

According to the study findings, both groups had the same results in terms of being able to speak properly but where the main difference was in swallowing. The group taking the drug had more difficulty.

“This group needed to swallow more, and it took a longer time to get food completely out of their mouth and into the esophagus,” said Rieger. “Because they have trouble eating, they may become nutritionally compromised.”

This leads to a host of other problems. Dry mouth causes one to drink large volumes of water, which leads to numerous trips to the bathroom. Difficulty swallowing causes issues with eating food while it’s still hot, and it takes the patients a long time to complete a meal.

As a result of these problems, Rieger found the quality of life for most patients decreased significantly. “For people suffering from xerostomia no longer want to go out to eat or be in social settings. Consuming water to quench dry mouth means they have difficulty in getting a good night’s sleep. Some become



A study led by Jana Rieger has found that saliva gland surgery helps prevent xerostomia in throat and mouth cancer patients.

depressed and avoid going out.”

Based on this study, the authors hope to encourage patients to have the submandibular gland transfer as a preventative treatment for xerostomia prior to radiation for mouth and throat cancers.

Seikaly and Jha, as well as Jeffery Harris from the Faculty of Medicine & Dentistry and Judith Lam in Rehabilitation Medicine, also contributed to the study, which was published in *Head & Neck* in April 2011. ■



Are You a Winner?

Congratulations to Clarence Gerda, whose name was drawn as part of folio’s April 22 “Are You a Winner?” contest. Gerda correctly identified the photo in question as the main-floor transition of the Biological Science building and the Centennial Centre for Interdisciplinary Science. For his correct answer, Gerda has won a University of Alberta-issued stainless-steel coffee mug, as well as a U of A-embazoned bookmark.

Up for grabs this week is a U of A-embazoned water bottle coffee mug, as well as a U of A bookmark. To win, simply email what building the photo is of and email your answer to folio@exr.ualberta.ca by noon on Friday, May 13, and you will be entered into the draw.



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Decorative Beaux Arts-style toppers on the Dentistry/Pharmacy Centre, formerly the Medical Building, which was completed with the aid of a major grant from the Rockefeller Foundation in 1921.

U of A human research ethics boards continued to evolve

Michael Brown

Although the approval process for human research ethics needs to be as thoughtful as the research itself, it need not be cumbersome.

Thus, May 11 will signal the latest chapter of the University of Alberta's careful refinement of its human research ethics policy and procedures when the new Human Research Ethics Policy and Procedures come into effect.

"The challenge, if you stop and think about the scope of research involving human participants, and writing policy and procedures that are applicable or suitable to all forms of research, is significant," said Susan Babcock, administrative director of the Research Ethics Office. "The research most people think about is clinical, or industry-sponsored drug trials. To be fair, a lot of the drive towards ethics standards and reviewable research comes out of a medical model."

The Tri-Council Policy Statement, with which compliance is a condition of eligibility for the University of Alberta's researchers to receive Tri-Council fund-

ing, has governed human research ethics since 1998. A revised policy statement was released late last year.

Subtitled *Ethical Conduct of Research Involving Humans*, the document is 150 pages and outlines the principles researchers must adhere to in conducting their research, especially concerning protection of the participants. It also calls for all universities to have their own policy statement and procedures around human research standards.

At the U of A, the way research ethics review was handled initially was to establish research ethics boards in each faculty. Babcock says 17 original research ethics boards were trimmed early on to 13, as faculties merged boards (the faculties of arts, science and law created their own board, as did the health science faculties) to address challenges, which resulted in inconsistencies in interpretation of policy, procedures for handling reviews, timeliness and resources.

"It is difficult to maintain continuity on smaller boards," said Babcock. "In small faculties where everyone knows everyone, how do you get that arm's length review? For the bigger faculties,

we started to see interesting variations on how similar research was being reviewed."

One of the biggest challenges of research ethics, says Babcock, is that, for many researchers, it appears to be a bureaucratic obstacle. To help streamline the application process, the university implemented Human Ethics Research Online, or HERO, in 2008. While moving to an online system kept with the times, Babcock says researchers are still wary of a system that may be seen as arbitrary.

"Many researchers treat ethics review like some kind of black box. You drop something into it and if you are lucky, you get your ethics at the end of it," she said. "The challenge for the research ethics office is to reframe our process so researchers understand that they can consult with us in advance."

Another challenge in the reorganization was developing a model that offers something beyond the "biomedical and everything else model."

With that, the working group on this reorganization recommended four centrally administered research ethics boards that sit outside the faculties and relieve them of the burden of resourcing individual boards.

"Each board is capable, with a few exceptions, of reviewing the full range of ethics for human participant research, but they will tend to specialize in groupings of research methods that are more

often associated with particular forms of risk," said Babcock. "We've deliberately chosen to number the boards rather than name them because if you name the different boards some people may feel left out."

“The challenge for the Research Ethics Office is to reframe our process so researchers understand that they can consult with us in advance.”

Susan Babcock

Babcock says Board 1 focuses on what is often described as community-based research, where there may be a close or iterative relationship with the researcher and the subject group.

"Many qualitative studies would likely be reviewed by this board, as would participatory action and ethnography studies."

Board 2's focus will be on issues related mostly to privacy, anonymity, confidentiality and disclosure, while Board 3's concentration will be differential treatment of participants.

Once Research Ethics Board designation under the provincial Health Infor-

University 101

mation Act has been determined, Board 4 will be responsible for processing ethics requests for biomedical research and clinical trials. "Here you will have to have physicians on the board who can read and understand the protocols being presented," said Babcock.

Another benefit of this new four-board system is how it addresses the ethics needs of interdisciplinary research. Under the previous policy, researchers had to get research ethics approval from each of the faculty research ethics boards involved.

"Under the new policy, interdisciplinary studies will need approval from only one research ethics board," said Babcock. "Researchers will be able to direct their study to the research ethics board best equipped to review their research."

Babcock says with staff in the Research Ethics Office ready to assist, choosing an application path should be easily identified.

"It is the same as submitting a grant application; you have to choose which funding agency is going to review your grant application. If someone submits their application to the wrong board, we have ways of redirecting the application quickly and without additional work by the researcher." ■

UNIVERSITY OF ALBERTA VISITING LECTURESHIP IN HUMAN RIGHTS

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Making indirect cost accounting easier

Lorne Babiuk, vice-president (research)

A working group struck by the President's Advisory Committee of Chairs has been asked to examine aspects of research administration where efficiency needs to be improved. Larry Kostiuik, chair of the Department of Mechanical Engineering, and I co-chaired this working group, and it was composed of faculty members and administrative staff from the Research Services Office and TEC Edmonton.

One area the working group reviewed concerned the classification of research agreements as grants or contracts. Indirect costs refer to expenditures incurred in the conduct of research that are not readily or effectively traceable to specific activities, yet are real costs that must form part of the budget for a research project. Examples of indirect costs are building use, regulatory requirements and accreditation, renovation and maintenance of research facilities, library acquisitions and operating costs, animal care and administration costs.

In the former version of the procedure, the indirect cost-recovery rates varied according to how the research funding coming into the university was defined; the rate for grants and technical service agreements was 15 per cent, while the rate for contracts was 40 per cent.

In order to streamline discussions about indirect costs and expedite the processing of research funding agreements, the working group recommended a flat rate of 20 per cent for indirect costs, effective May 1. This recommendation was endorsed by PACC and the Deans' Council.

The revised procedure eliminates the discussion about the type of agreement being the basis for the differentiation. A minimum of 20 per cent of indirect costs is the standard recovery rate for grants, contracts and services. This new rate mirrors the rate that has been provided by the Tri-Council Agencies in the past and is, therefore, subject to change. Several of the major research universities in Canada have or are moving towards a flat rate for indirect costs.

An example of how the new procedure will reduce delay is the degree of expediency in having a contract agreed to by an external sponsor. By having a set rate of return for indirect costs, the researcher can supply a sponsor with an agreement template that clearly outlines both the needs of the university and those of the project sponsor. Applying a flat rate of indirect costs to the funds allocated through grants, contracts and technical services agreements eliminates selecting the agreement terms based on the rate of indirect costs, and refocuses the choice of agreement terms to those

the open door

necessary to allocate rights and risk.

Another change to the procedure is that it now documents the current practice of not applying indirect costs to matching industry funding for awards involving contributions from a recognized major granting council (e.g. CIHR, NSERC and SSHRC) and a private company.

Agreements and applications that were negotiated by the university before May 1 and contain budgets reflecting a former indirect costs rate will continue to be honoured. New agreements and renewals of existing agreements that occur after May 1 will be subject to the revised procedure.

This procedure will apply to general research accounts and lab accounts; however, the Research Services Office will not be making updates to the rate applied to general research accounts and lab accounts that are already set up until Sept. 1.

It is important to note that the internal allocation of indirect costs has not been changed; it is part of the Indirect Costs of Research Policy which has not been revised.

The revised Application of Indirect Costs Recovery Procedure is now available at U of A Policies and Procedures online. ■

Professor invited to major conference thanks to insight into chronic pain

Holly Gray

Cary Brown, professor of occupational therapy at the University of Alberta's

Faculty of Rehabilitation Medicine, will be heading to Baden-Baden, Germany this August as the Outstanding Scholarly Contribution Award winner and a keynote speaker at the jointly held 31st annual meeting of the International Institute for Advanced Studies and the 23rd International Conference on Systems Research, Informatics and Cybernetics.

"I'm really excited to be going because the idea-exchange opportunities are going to be amazing," Brown said. "I was very pleased because the person who contacted me is a well-known scholar in complexity theory. I thought, 'It's the George Lasker,' so I felt quite flattered."



Cary Brown

And so she should. IAS president Lasker wrote that the 2011 OSCA "is a scientific equivalent of the OSCAR Award given in the movies," and that Brown's work is "unique and represents Canada at its best."

Brown received the honour for her paper, *Mazes, Conflicts, and Paradox: Tools for Understanding Chronic Pain*. To understand the topics covered in the paper, Brown says to imagine having a whiplash injury after a car accident. With support from family, friends, health-care providers and

coworkers, the patient could be feeling better in no time.

"But what if your injury has left you jobless and financial burdens are stacking up?" she asks. "Friends may start avoiding you because the other driver was injured and they think the accident was your fault. Your family is upset that your pain is slowing you

down. How might these factors influence your recovery process? Injury and healing are not a straightforward process and little events can have large, long-lasting effects."

The idea that how pain is experienced is unique to each individual and involves many social and personal factors unknown to health-care providers, such as insurance company policies and self-image, is also explored in Brown's piece.

She is one of the first to apply a complex adaptive systems theory to understanding chronic pain. She describes the understanding of why people have chronic pain and what can be done to alleviate it as "elusive as panning for gold with our bare hands."

But Brown believes framing chronic pain as a complex system influenced by paradox, conflict and

interactions between unknown variables will enable health-care professionals to find better strategies to help patients manage their chronic pain. She explains that some health issues are linear, such as broken bones and bacterial infections, but chronic pain is much more complex.

"We say, 'You have a broken leg, we'll put a cast on it, it'll heal,'" Brown says. "Here's the problem, here's the cure, here's the end result. And usually that kind of approach works for those kinds of problems. But then there are problems that aren't so straightforward, like drug abuse,

diabetes and chronic pain. Those things are influenced by interactions between other factors such as social networks, culture, politics, environment and personal beliefs. So they don't follow a straightforward cause-

and-effect pathway. The outcome can be unanticipated and how we deal with that unexpected emergent behaviour determines whether there is a positive or negative outcome."

She also thinks that health-care providers should take paradox (two contradicting things existing at the same time) into consideration when dealing with the chronic pain experience.

"Paradox is a characteristic of complex systems, and recognizing that helps us understand what forces may be acting on the person with pain," she says. "Paradox in chronic pain management could be the belief that pills are good for you because they take away the pain, but at the same time people fear that pills are addictive."

"So that paradox is going on for people with chronic pain and it causes a lot of conflict. It can lead to actions that the health-care provider can't understand and keeps people with pain unable to move forward and unable to actually resolve their pain." ■

"The idea-exchange opportunities are going to be amazing."

Cary Brown

Dispelling myths about people with disabilities by teaching new ways of thinking

Jane Hurly

It's not unusual for students to send Joanna Clair photos of washroom signs.

But this isn't for an unusual art project; it's a lesson in awareness and building better understanding of the language and symbols associated with disability and how those enhance or detract from perceptions, attitudes and assumptions about people who experience disabilities.

It's all part of Clair's class in the Faculty of Physical Education and Recreation at the University of Alberta that explores physical activity and recreation for special populations, and one of the challenges is to open students' eyes to prejudice and stimulate new ways of

thinking about disability.

"A great learning moment in the class is when we look at language and disability," she says. "For example, we look at the symbols on accessible



Joanna Clair

washrooms and the words these symbols evoke. Students often say 'weak, old, inactive, frail and needy.' But if you change the image by putting the arm back as though the person were pushing off, or draw speed lines behind the wheels the image becomes strong and athletic with just two changes."

Because Clair believes that experience is the best teacher, students have opportunities to learn from and interact with individuals with a variety of disabilities, including those who have spinal-cord injuries, stroke, muscular dystrophy, hearing impairments or double-limb amputa-

tions. "When the students share a lived experience and meet a real person with a disability, they see the person first," says Clair.

Clair—who recently received a lectureship in the faculty to teach courses in adapted physical activity as well as her second-year class—will also teach three senior-level courses: one on assessment and service delivery for special populations, one on physical activity for older adults and another on active living for individuals with developmental disabilities.

"My intent is to dispel myths," Clair says, adding that she's a firm believer in community service learning. To that end she's developed strong ties to community associations so the students' learning is peppered with experiences of working alongside people with disabilities. "When students have an experience working with a person with Down syndrome, autism or cerebral palsy, they can understand so much

"When the students share a lived experience and meet a real person with a disability, they see the person first."

Joanna Clair

better, and it gives them that all-important one-on-one contact, opening them up to a new experience and view of people with disabilities."

At heart, says Clair, it's the rewards of teaching that drive her. "I love the classroom. I like it because it's tangible and because you can often get an immediate sense of engagement, excitement and interest from the students. Most of all I want to create a learning environment that inspires them." ■

Augustana German prof teaches 'whole person' first

Christopher Thrall

In late April Kim Fordham was informed that she had received the University of Alberta's Rutherford Awards for Excellence in Undergraduate Teaching. The award is based on how former students, colleagues who have watched her teach and those across the country respond to her teaching.

"I think that reaction is the key," said Fordham, a professor of German at the U of A's Augustana Campus, about the honour. "It is a valuing that comes from all levels. Students may not remember the grammar rules that they learned in German class, but they remember that my teaching has to do with the whole person."

The morning Fordham received news of her award, a former student came by her office to have coffee. She brought a letter telling Fordham

what her teaching had meant in her life. "Attached to that," Fordham said, "she gave me the letter that she wrote for the Rutherford Award. It's very moving to read all that. Then, that afternoon, I got the phone call." The graduate's letter proves, says Fordham, that her students feel there is value in what she teaches.

"Through your teaching and your example," writes the former student, "you have shown me what it means to be a woman of strength, compassion and courage. With your encouragement and guidance, I have learned to think critically and ask questions instead of simply following along with what everyone else thinks."

"I have realized the importance of speaking out on societal issues," the student's note continues. "I have found the strength to use my voice and help those who have lost theirs."

Fordham has taught German at Augustana since 1991 and was recognized with an Augustana Distinguished Teaching Award in 2000. She is also the volunteer director of the CSSG. This year, she was not only appointed a full professor but was confirmed for a second term as chair of the Augustana humanities department before she received word of the U of A award.

"Having them in the order that they came was important," Fordham says. "The full professor evaluation came first, so I was granted the full professorship regardless of the fact that I was successfully reappointed as chair and of the fact that I got the Rutherford Teaching Award."

teaching & learning, learning & teaching

"It's exciting to think about what my teaching means, what it means to me and what it means to students," Fordham says. "The day after I heard, I wanted to celebrate with my students in some way. I went and bought each of my students a flower. It is the students—the wonderful students that I have—who make my job so much fun, who make it possible for me to win awards." ■



Augustana's Kim Fordham won a U of A Rutherford Award of Excellence in Undergraduate teaching.

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Skin: Server Eczema/Psoriasis; Alopecia, Hives, Shingles, etc...
Others: hemorrhoid, Diabetic-Gangrene, Raynaud's S, Rheumatism...
Etc....

Study finds Mercury converted to its most toxic form in ocean waters

Brian Murphy

University of Alberta-led research has confirmed that a relatively harmless inorganic form of mercury found worldwide in ocean water is transformed into a potent neurotoxin in the seawater.

After two years of testing water samples across the Arctic Ocean, the researchers found that relatively harmless inorganic mercury, released by human activities like industry and coal burning, undergoes a process called methylation and becomes deadly monomethylmercury. Methylation, in this case, is the addition of a methyl group to heavy metals catalyzed by certain enzymes.

Lead U of A researcher Igor Lehnher says the greatest exposure to monomethylmercury for humans is through the consumption of marine-based foods. "Unlike inorganic mercury, monomethylmercury both bio-accumulates and bio-magnifies, meaning its toxic effects are amplified as it progresses through the food chain," said Lehnher. "Humans are at the top of the food chain, so we're getting the highest content of this neurotoxin through contaminated seafood."

Lehnher, who was recently awarded his PhD in biological sciences, says the data collected in the Arctic Ocean paints a disturbing picture. "The conversion of inorganic mercury to monomethyl mercury accounts for approximately 50 per cent of



Igor Lehnher's research group travelled by ship through the Canadian Arctic to collect incubated seawater samples.

this neurotoxin present in polar marine waters," said Lehnher. "Those high levels could also account for a significant amount of the mercury found in Arctic marine organisms."

For the study, Lehnher's research group incubated seawater samples, collected from the Canadian Arctic Archipelago, with stable inorganic mercury. Lehnher found that the relatively harmless inorganic mercury was converted, through methylation, into the neurotoxin monomethylmercury.

"We believe the methylation process is happening in oceans

all over the world," said Lehnher.

The researchers say this is the first direct evidence that inorganic mercury is methylated in seawater. The research team is now going to look at how the process works.

"We're 90 per cent sure that the methylation process is carried out by microbial life forms in the ocean like algae," said Lehnher.

The research was published earlier this month online in *Nature Geoscience*. ■

Life-enriching design exhibition highlights the best of the discipline

Michael Davies-Venn

Imagine not having to give up your home to take up residency in an assisted-living facility simply because of old age, or imagine having seamless access to buildings and services while using a wheelchair. What about a health-care system where computer scientists, designers, architects, pharmacists and a host of other professionals work together to provide the ultimate care?

At the University of Alberta, such suppositions translate into tangible outcomes researchers say will change our relationship with our environment while helping us live longer, happier, independent lives. But to get there, design changes to just about everything—from buildings to pill dispensers—need to happen.

"Most designs today don't take into account ideas of equitable use, quality of use, access, simplicity of use or reduction of error. That is where we are coming from," said Robert Lederer, industrial art and design professor at the U of A. And the direction, Lederer says, should head toward an approach called universal design, which is commonly defined as broad-spectrum ideas meant to produce buildings, products and environments that are inherently accessible to both people with and without disabilities.

"We who practice universal design consider

the psychological well-being of the user. So in a user-centred designed space, for example—which is part of universal design theory—people are happier and perform better. Universal design is about providing the best possible facility, whether it's a space, a device or system, which can allow someone to be the best they are. It is about the sensitivity of needs," said Lederer.

Lederer and his colleagues are exhibiting samples of their designs that they say goes beyond the theoretical applications of universal design to highlight solutions to real, everyday problems.

The exhibition, *More than just Universal Design*, features the work of various faculties and departments including computing science, occupational therapy and the Faculty of Extension. Features include the Moon Table, which provides a user-centred dining experience for people with vision loss and a dialysis chair that changes how a patient receives a blood transfusion, making it possible for patients to read, draw or play board games while receiving treatment in the upright position. A watch that doubles as a glucose monitor for diabetics will also be on display.

Lederer says universal design is also a less expensive approach to dealing with issues arising from an increasingly older population.

"Governments can't afford to build more

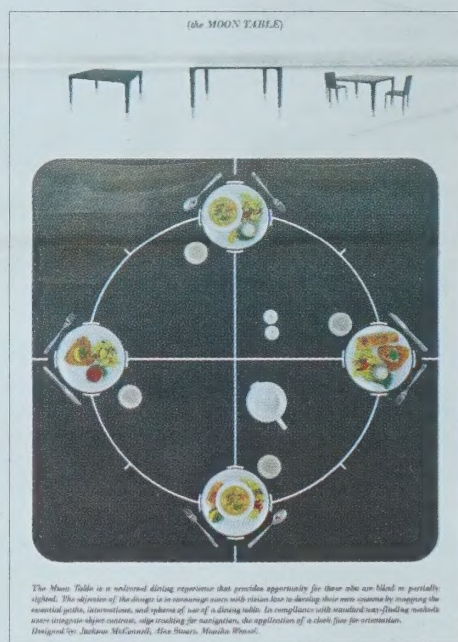
assistive care centres," he said. "It is much cheaper and cost-effective to keep people in their homes as long as possible. And to make that possible, we have to change a lot of elements within their environments and provide them with systems that will allow them to safely stay in their homes."

Lederer says a smart condo is one example of such a system. The smart condo is a prototype living space designed at the U of A that enables elderly people with medical conditions to live independently. Its design allows for monitoring systems that relay information on the health status of its occupant to health-care professionals, who could quickly respond when needed. Lederer says that, by understanding and monitoring the health status of an occupant in the condo, a noticeable change in their condition would provide professionals time to deal with patient problems before they become emergencies.

"What usually happens is that when someone ends up in the emergency room once or twice, the response has been, 'off you go to the nursing home,'" Lederer said. "A lot of times when patients are taken to these facilities, they deteriorate faster due to

depression; this is especially so for people in the early stage of Alzheimer's disease who are taken out of their known environment."

The exhibition runs at the atrium of Enterprise Square until May 18. ■



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Sound communication leads to animal care award

Ken Mathewson

Clover Bench, professor of applied ethology—the study of observing animals in their natural environment—in the Department of Agricultural, Food and Nutritional Science, was honoured April 14 with the Alberta Farm Animal Care Award of Distinction for Communication.

The accolade honours individuals who go beyond innovations in animal care, and take a proactive approach in conveying their findings to fellow researchers and industry leaders.



Clover Bench

Although Bench is well respected throughout the industry for her extensive background and experience, she feels that the primary reason for the confidence industry leaders have in her is her candour and straightforwardness.

"The science is important, obviously, but the benefits need to be communicated in order to give them some practical value," said Bench, who adds that she tries to stick to the facts. "I explain to people, 'Here's what we know, here's what we don't know and here are some of the questions we should be asking.' That helps to keep the conversation constructive."

Growing up in the heart of San Jose, California, she was far removed from farm life until her discovery of the Emma Prusch Farm Park. Originally an 87-acre dairy farm, the land was bequeathed to the city of San Jose as an area for local citizens to learn about farm life. The local 4-H club was quickly established, and Bench was one of the first to join.

"I'm originally a city kid," she said, "but amazingly, I had the opportunity to raise livestock in the middle of a city that's known for the dot-com industry."

Although the award is traditionally given to individuals approaching the end of their careers, Bench said that she has no plans to ease up on the throttle.

"I feel that it tells me I'm on the right track, and to keep up with what I'm doing," she said. ■

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The dog days of an artist's sabbatical

Dawn Ford

Each day Harold Pearce dates a page and, for two to 20 minutes, he draws. Ever since his son gave him a sketchbook in 1987, Pearce, who is an art instructor in elementary education at the Faculty of Education at the University of Alberta, has been drawing daily.

"The nature of the imagery is thematic, reflecting personal interest," says the artist who focused on the Canadian Mountie during his first decade of drawing. He says he was drawn to Mounties after first reading about them and seeing postcards as a boy growing up on Vancouver Island. "I remember seeing them marching in a local parade and thinking one day I might become one," says the artist, teacher and researcher.

"After I focused on the Canadian Mountie, I focused on drawing my dog or cat. I then combined dogs with Mounties, until the dog seemed to take over my work," says Pearce.

In 1999, during a sabbatical from the Nova Scotia College of Art and Design, Pearce drew a

picture of his dog every day for one year. These drawings became 366 small paintings for the series *my year as a dog*. Pearce's drawings and paintings, occasionally displayed in the education art wing, have become a common conversation theme among education art students and others around campus.

Today, Pearce has amassed 70 books representing more than 20 years of daily drawing. "Each day, each page, is a discreet small image that can stand on its own merits and each filled book is an object that contains sequential serialized images," says Pearce. "What continues to give this project its impetus is that each small page, drawing and book is a part of a larger concept, which is to draw every day," says Pearce. His research in part includes the educational implications of daily drawing and journal keeping.

"Daily drawing keeps the drawing muscles—eye, hand and brain—fit. For an adult or adolescent, the routine and discipline of daily drawing relaxes the mind. With devotion and persistence, increased skill and fluency in drawing can develop," says Pearce. For a child, daily drawing can

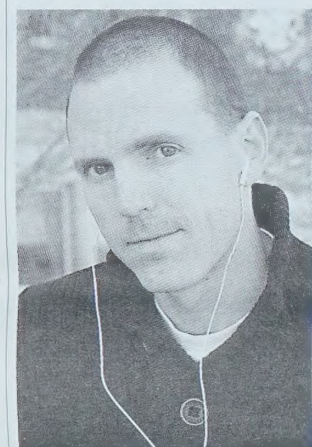


In 1999, Harold Pearce drew a picture of his dog every day for one year. These drawings became 366 small paintings for the series "my year as a dog."

be a kind of game imbued with the fun that comes with spontaneous expression and the satisfaction that comes with completing a task within or in spite of certain parameters."

A practicing artist in drawing and painting, Pearce has work exhibited in the Front Gallery

in Edmonton, and in March of 2011 his work was featured in the four-gallery exhibition at the Dalhousie Art Gallery. Titled *Traffic: Conceptual Art in Canada from 1965 to 1980*, this exhibition will show in Edmonton this summer at the Art Gallery of Alberta. ■



Bill Hodgetts

Better hearing in the developing world just an app away

Laurie Wang

People with hearing problems living in the developing world may have a solution on the horizon, thanks to an innovative University of Alberta professor in the Faculty of Rehabilitation Medicine.

Bill Hodgetts, professor in the Department of Speech Pathology and Audiology, submitted an idea to a national competition, Grand Challenges Canada, for an iPhone/iPod Touch application that will test and amplify sound for the user.

"The developing world doesn't have the people to do the testing or care, and I hope my application will fill that gap," said Hodgetts, who is program director of bone conduction amplification at the Institute for Reconstructive Sciences in Medicine at the U of A.

Traditional hearing aids range in price from \$2,000 to \$7,000, but the cost of an iPod Touch or even an iPhone may be more reasonable for someone in a developing country. Already many people in developing countries own a cellular handheld device and, with close to 300 million

hearing-impaired people in the world and two thirds of them residing in developing nations, Hodgetts sees an opportunity to help.

Hodgetts' application would test the person's hearing and then adjust the amplification of the sound accordingly. So when the application is on, people can speak to the hearing impaired person, and the sound picked up from the device's microphone is then amplified into the earphones so the person can hear more clearly. Hodgetts also proposes that, for every application purchased in a developed nation, one

person in a developing country will receive the application for free. "I want to develop a resource that is relatively affordable and simple—usable with only a phone and earphones—to make a huge difference in a person's world of hearing," explained Hodgetts. Grand Challenges Canada is a not-for-profit organization dedicated to improving the health and well-being of people in developing countries by integrating scientific, technological, business and social innovation both in Canada and in the developing world. ■

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Researchers propose music theory that includes the listening experience

Michael Davies-Venn

By breaking down traditional barriers between disciplines, two University of Alberta researchers say opportunities could develop that may change how we experience music. And that's just the start of possibilities.

Their concept has received the attention of music theorists across North America, and in fact, the duo won a coveted Cambridge University Press award for their research, which was recently presented at the Society for American Music conference.

Mary Ingraham, U of A musicology professor, and Michael MacDonald, ethnomusicologist and post-doctoral fellow, say their study bridges the gap between musicology—a Western European-based historical and analytical study of music—and ethnomusicology, which focuses on the dynamic relationship between a performer and audience.

To prepare the work, *Head Hunters*, *War Canoes* and *the Reciprocal Negotiation of Ritual Performance*, which won them the award, Ingraham and MacDonald examined two historical films produced with the same footage (but with different sound tracks) of a Kwakwaka'wakw potlatch. The Kwakwaka'wakw are an Aboriginal on the north coasts of Vancouver Island and mainland British Columbia; the potlatch is a cultural community event composed

of story, song, ritual and drama. The researchers focused on music performance during their study. MacDonald said, "While most study of music looks at music performance from a European point of view, which is the musician as performer and audience as spectators, the community event we studied proposes a alternative perspective, that of performance as community building through belonging."

“Once we acknowledge that listening is a profound experience, then we can explore the way that impact is felt.”

Michael MacDonald

He says their approach brings together two fields of study, ethnomusicology and musicology. MacDonald explained that more than half a century ago, musicologists realized that they were studying a very limited amount of the music of the world and that they had to develop new approaches. "So they turned to anthropology to develop a new hybrid approach and came up with one that is partly anthropology and musicology: ethnomusicology," MacDonald said. "An unexpected consequence is that now there are two unique disciplines that work

quite separately, instead of one richer musicology." One implication of that separation is that musicologists often do not regard the audience as having a role in creating and playing music. But the opposite is true for most ethnomusicologists, who regard the audience as participants. "We are working on an intercultural model of performance theory that considers the activity of the audience," said Ingraham. "Typical Western performance theory draws a fourth wall between performer and audience, but the fact is, being there as an audience member, we're not just passively receiving information." By bringing the two areas of study together, Ingraham said their study has opened a whole new area to consider, such as the active role an audience plays in music, which traditionally has not been of concern to musicologists. Also the study offers a host of other possibilities to consider, from how we experience music to how we develop a taste for our favourite tunes. "This research goes in many exciting directions. Once we acknowledge that listening is a profound experience, then we can explore the way that impact is felt," MacDonald said. "For example, acknowledging that listening is far more than just a momentary experience lets us consider it as a key role in belonging, which itself may be more properly recognized as a very accessible type of social therapy." ■

Francophone theatre highlighted linguistic duality

Jamie Hanlon

Western Canada could be considered home to some avant-garde French-Canadian theatre, says University of Alberta's Louise Ladouceur. But what makes it different from, say, Quebec theatre, makes it routine in the lives of francophones on the Prairies.

The Campus Saint-Jean theatre professor's article in the *International Journal of Francophone Studies* explores a transformation in French-Canadian plays west of Quebec and their growing use of both English and French dialogue. Drawing on examples of plays written by francophones from Ontario and Manitoba, Ladouceur says that while the notion of bilingualism may once have been considered a threat to French speakers, the artistic shift of using both official languages is symbolic of bilingualism's indispensable nature in a minority context. Not only is the concept of a bilingual play a different way to look at theatre, she notes, but also is a different way for francophones to view themselves.

"In Manitoba playwright Marc Prescott's play, *Sex, Lies et les Franco-Manitobains*, one of his characters says, 'I am not francophone; I am not anglophone. I am bilingual. That's what I am,'" said Ladouceur. "In a minority context, being bilingual is not a flaw; it is an essential condition to remain francophone. This attitude towards bilingualism is a very important shift."

The shift also brings out the reality of environment,

she says. Using *Les Belles Soeurs*, a famous play by Quebec playwright Michel Tremblay, as an example, Ladouceur notes that the use of Quebecois slang in the play was heavily criticized at the time. The playwright defended his use of the language, saying that by having these characters speak any other way would be a false representation of that cultural and environmental reality. Just as Tremblay used "joul," or slang, in *Les Belles Soeurs* to depict the linguistic reality of Montrealers, so, too, do French-Canadian playwrights in Western Canada need to use English to depict their reality, says Ladouceur.

This new attitude of linguistic duality provides an intercultural experience for theatregoers. Regardless of whether a person is bilingual or unilingually French or English, Ladouceur says, each will take away their own understanding of the play from their distinct linguistic perspective.

However, she notes that perhaps the most important lesson to learn from this form of theatre is found in learning to understand each other. And to make their plays even more accessible to anglophones, she says, professional francophone theatre groups have added subtitles, another shift that shows signs of inclusive evolution in French-Canadian theatre.

"It's a question of sharing, of making what we do in French accessible," she said. "I think it is a sign of maturity in the francophone theatres. We are now confident enough in what we do that we want it to be seen and understood by everybody, including our anglophone peers." ■

Study finds the immigrant health advantage lost on future generations

Andrea Lauder

The health advantages that immigrants enjoy over native Canadians are not passed along to their children, says a new University of Alberta study.

Katerina Maximova, professor with the School of Public Health, analyzed data from approximately 6,400 low-income children in an inner-city Montreal neighbourhood who were followed for more than five years. Within this group, 104 countries of origin were represented, which Maximova says was crucial to understanding how the Body Mass Index changes for immigrant children as they grow.

The study covered new-to-Canada immigrant children, second-generation immigrants—children born in Canada whose parents immigrated to Canada—and native-born Canadian children between the ages of nine and 12 years. These groups were further sorted by cultural background such as European, Asian and South American. All of the children came from similar depressed socio-economic backgrounds.

The data revealed striking indicators: The healthy weight advantage that new-to-Canada immigrant children enjoy is not evident in second-generation immigrants or native-born Canadian children. "The advantage is lost with each successive generation that lives in Canada," says Maximova.

"The data suggests that, the longer you live in Canada, the more likely it is that you'll adopt an unhealthy lifestyle."

As time goes on, she says, the BMI of immigrant youth begins to converge with the BMI of the healthier native-born Canadian youth. This suggests a need for more resources to be directed towards low-income communities where immigrants often settle in order to develop environments that support healthy choices.

"For instance, if immigrant children move into neighbourhoods where there are playgrounds for them to be active, few fast food outlets to tempt them to make less healthy choices, and people around who are eating healthily and exercising as part of their social environment, I think we will see a difference on their BMI," says Maximova.

"New immigrants want to adopt Canadian ways when they arrive, particularly youth. Within this specific age group, the pressure to fit in to Canadian cultural norms is multiplied even further," she adds.

As immigrants continue to represent the fastest growing demographic group in Canada, this research is timely and important for future planning and resource allocation, says Maximova. The next step in the research is to further test the data to see if BMI is truly tied to lifestyle and behaviours.

"We want to know more about how we can help immigrants preserve their health advantage and perhaps learn from them to promote and protect the health of all Canadians," says Maximova.

Maximova's study was recently published in the *Annals of Epidemiology*. ■

McLuhan airport exhibit is the medium

Michael Davies-Venn

The Edmontonian who coined the famous phrase, "the medium is the message," is now giving people flying out of Edmonton a few ideas to ponder as they board their flight. Researchers and students from the University of Alberta, and one from the Northern Institute of Technology, have installed an exhibition, *The McLuhan TV Wall*, in the Edmonton International Airport's departure lounge.

The multimedia piece comprises nine vintage and contemporary television sets, each playing a different interview clip by literary critic, media theorist and author Marshall McLuhan.

McLuhan is considered one of the most influential thinkers of the 20th century, and his social commentaries have helped shape society, says Marco Adria, director of the Faculty of Extension's Master of Arts in Communications

and Technology program, who organized the exhibition.

"McLuhan saw that television was going to permanently change our habits on reading and writing," says Adria. "He saw the advent of television as a shift towards a more visual culture where we relied on pictures and sounds rather than the written word."

The show, which will be on display until November, highlights McLuhan's many television appearances from the early 1950s until the late 1970s. It also features life-sized displays showing McLuhan as a child in Edmonton and receiving an honorary degree from the U of A in 1972.

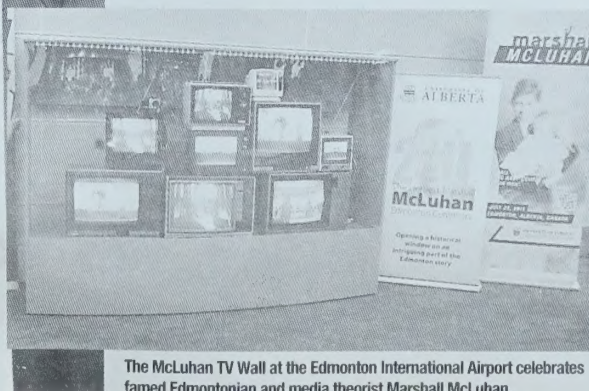
Adria says the exhibition celebrates the birth of McLuhan, who was born in Edmonton 100 years ago this year. "There are celebrations around the world, mainly in Europe. We felt that Edmonton should be part of that because very few people know that McLuhan was born in Edmonton."

Adria says the designers of the exhibit also hope that it in some way helps illustrate and demonstrate McLuhan's aphorism.

"The 'medium is the message' is something that can be applied in many contexts over time in different ways. I'm hoping [McLuhan's statement] is something that people can understand better or apply while they're looking at this exhibit," he said.

McLuhan's ideas on the impact of technology on human consciousness are still pertinent today, said Adria. "Many of the things he said were contradictory. He never felt that the effects of television could be stopped. And it was not his intention to provide a kind of counterweight to technology, but he wanted people to wake up from some of the illusions that media create," said Adria.

"McLuhan felt that modern society was characterized by people who were only half awake, and that we were using radio and television as a means of pretending that we are awake," he said. "The same questions he asked about the effects of television, on whether we're asleep to the effects of television, are relevant now as we try to understand this new generation of social media, such as twitter and Facebook." ■



The McLuhan TV Wall at the Edmonton International Airport celebrates famed Edmontonian and media theorist Marshall McLuhan.

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UNIVERSITY OF ALBERTA

news [shorts]

folio presents a sample of some of the research stories that recently appeared on ExpressNews, the U of A's online news source, and other campus news sources. To read more, go to www.expressnews.ualberta.ca.

Engineers take top spots at business plan competition

Two entrepreneurial teams of engineering students have won first and second place in a provincial business plan competition.

Materials engineering students Trina Salvisberg, Julian Neira and Mustafa Jamaly won first place and a \$6,000 prize in the student category of the TEC Venture Business Plan Competition April 27. Electrical engineering PhD students Jaron Van Dijken and Michael Thomas and chemistry PhD student Brian Worfolk took second place in the competition's fast-growth category.

Salvisberg and her teammates are pitching a business plan based on new technology to manufacture an ultra-capacitor for hybrid vehicles. Capacitors are ubiquitous in electronic devices like camera flashes because they collect energy and release it in a single burst. In this case, the students are using nanotechnology to develop ultra-capacitors that outperform anything on the market several times over.

The students' device would absorb braking energy in a hybrid vehicle and use it to accelerate the vehicle once it starts moving again. Their design is based on research by Department of Chemical and Materials Engineering professors Weixing Chen and Xinwei Cui and uses nanomaterials that are tiny but cover a large surface area—a bonus in ultra-capacitor design.

The project began last fall when the three formed part of a team in professor Ted Heidrick's project management and entrepreneurship course. Their success at the Venture Prize competition marks the second time in as many years that students in the class have taken their business plans all the way to a first-place finish.

Canada's Arctic glaciers losing water at an alarming rate

Faculty of Science PhD graduate Alex Gardner's research has revealed some alarming evidence that Canada's Arctic glaciers and ice caps have lost nearly as much water as there is in Lake Erie.

Gardner, a former student of Earth and atmospheric science professor Martin Sharp (a co-author on the paper) spent six years monitoring Arctic ice and found that in 2009 the ice-loss rate was four times larger than estimated by NASA for the mid- to late-1990s.

The measurements Gardner and his colleagues made on the ice and with satellites show the rate of ice loss "sharply increased" between 2004 and 2009, with ice loss increasing to as much as 93 cubic kilometres a year.

Gardner, who now works at the University of Michigan, conducted most of the research during his time at the U of A and says the ice loss has increased sharply "in direct response to warmer summer temperatures" since 2004. The losses have been so sharp that he and his colleagues believe the Canadian Arctic Archipelago was the single largest contributor to global sea-level rise outside Greenland and Antarctica between 2007 and 2009.

"Even though these Canadian glaciers and ice caps are small compared to the huge ice sheets, they play a significant role in sea-level rise," says Gardner.

The glaciers and ice caps are dwarfed by the colossal Greenland Ice Sheet next door. But the researchers say they are a major player in the climate-change equation because they hold so much water and are "highly sensitive" to rising temperatures.

"The amount of water contained in all of the ice caps and glaciers in the Canadian Arctic is three-and-a-half times the water in all of the Great Lakes," says Gardner.

Medical hall of fame inducts famed U of A virologist

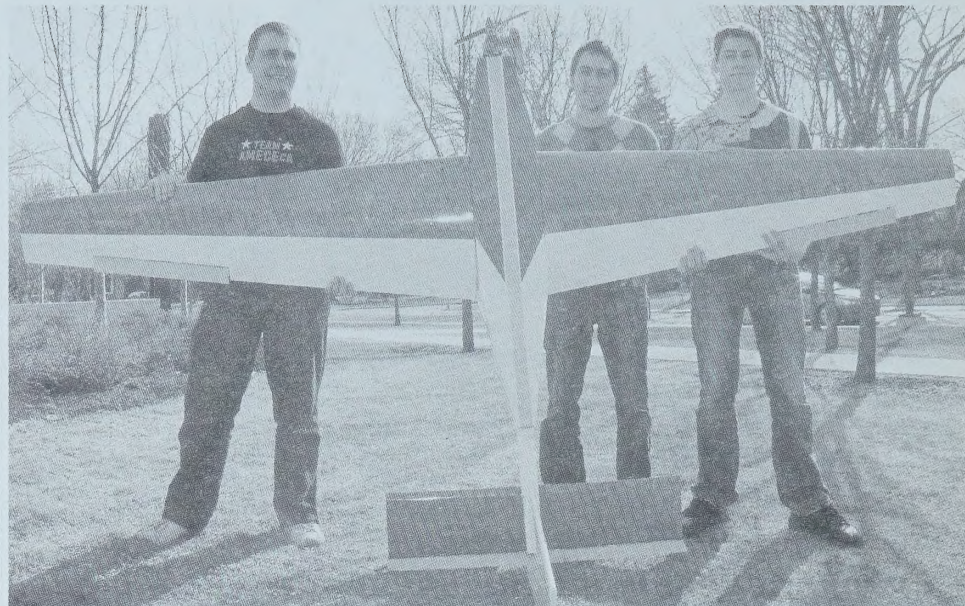
Lorne Tyrrell is one of six "medical heroes" who joined the ranks of 82 Canadian Medical Hall of Fame laureates April 28 in London, Ont. He will be inducted in two categories: Builder and Excellence in Health Research.

Tyrrell led the University of Alberta's medical school for 10 years, developed the antiviral therapy for hepatitis B now being used around the globe and he was the driving force behind the development of the Li Ka Shing Institute of Virology—a facility that has further advanced the U of A as a world centre of excellence in viral research. Tyrrell also holds the CIHR/GSK Chair in Virology in the Department of Medical Microbiology and Immunology at the U of A.

Student group emerges among the best investors

Five members of the student-run investment program, Prime, in the Alberta School of Business reached the final four of the America's Global Investment Research Challenge, held last month in Omaha, Nebraska, where they competed alongside students from Brigham Young University, the University of Wisconsin and the University of Southern California, who won the competition.

Prime manages a fund worth more than \$1.2 million and is made up of bachelor of commerce students Dan Everall, Geoff Graae, Bryan Harris, Mike Larson and Mark Van Thournout. The team competed against universities from Canada, the United States and South America. ■



Fourth-year mechanical engineering student Brandon Avery, third-year civil engineering student Stephen Rebus and second-year engineering physics student David Driedger present The Albatross.

The Albatross spreads its wings in international heavy-lift competition

Richard Cairney

A group of engineering students returned from an international heavy-lift aircraft design competition held in Marietta, Georgia, April 29 to May 1 with mixed results.

The Faculty of Engineering's Aero SAE Heavy Lift team designed a remote-controlled airplane with a wingspan of about three metres. Appropriately named The Albatross, the plane is the largest ever designed by the club, which entered the competition's high-payload category.

"Unfortunately, there was some balance issues with the airplane, which made it difficult to fly," says team leader Brandon Avery, a fourth-year mechanical engineering student from High level. "After a few nervous minutes of watching the plane fly, it crash-landed just off the runway."

The left wing and fuselage were both severely damaged, which meant the team had to miss some flight rounds in order to do repairs.

"After putting in some weight to balance the plane, we were able to get into the final flight round and The plane flew perfectly," said Avery. "Everyone in the stands cheered. We were all reminded of why we worked so hard on this project. Being able to see the airplane that you have worked

on for the past eight months fly through the air and land smoothly on the runway was incredible."

The plane itself weighs 5.8 kilograms, and takes off with an 8.2 kg-payload. The plane is supposed to lift off on a short runway—getting airborne within about 61 metres. That means a quick sprint: the plane's take-off speed is 13 metres per second.

“Being able to see the airplane that you have worked on for the past eight months fly through the air and land smoothly on the runway was incredible.”

Brandon Avery

"The size of engine we are allowed to use limits how much we can carry, so we designed the aircraft around the engine," said Avery.

Doing that sort of thing—designing an airplane—is something Avery and his teammates have a passion for. And groups like the Aero SAE team—funded by the Faculty of Engineering and corporate sponsors like

Great Hobbies in Edmonton, give students the chance to apply what they have learned in the classroom to real-life situations.

"I joined it because I am interested in aircraft and I wanted to apply what I learned in school," Avery said. "I'm focusing my mechanical engineering schooling on aeronautics as much as I can."

In one of his fourth-year design courses, Avery worked with a team of students to design retractable landing gear for the plane, which might be incorporated into next year's design. Even if it isn't, Avery says the experience of being on the team is a terrific way to compliment classroom studies.

"This gives you a lot of hands-on skills in designing and there is also extra report writing that I get to practice. In the Aero group you apply what you've learned in the classroom to a real problem, which helps you to know it better. Once you have applied that knowledge you can use it again—it's easier because you've done it before."

"I found that the hands-on work, actually building the plane, makes you a better designer because you have an idea in your head of how someone is going to have to make this, so you can make adjustments in design to avoid problems in the manufacturing. It makes your job easier." ■

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Liza Sunley

Study finds helmet laws work

University of Alberta researchers have confirmed that helmet bylaws increase helmet wearing rates among adults.

In a study published in the *Canadian Journal of Public Health* April 19, U of A School of Public Health graduate student Mohammad Karkhaneh; Brian Rowe, professor in the Faculty of Medicine & Dentistry and research director with the Department of Emergency Medicine; Don Voaklander, professor in the School of Public Health and director

of the Alberta Centre for Injury Control & Research; Duncan Saunders, chair, Department of Public Health Sciences in the School of Public Health; and Brent Hagel, professor in the Departments of Pediatrics and Community Health Sciences at the University of Calgary, compared the number of people wearing helmets in the province, to those doing so in St. Albert. Alberta has legislation requiring the use of helmets while cycling for children under the age of 18, while St. Albert is the only jurisdiction in the province with a bylaw extending the requirement to cyclists of all ages.

In 2006, when St. Albert's bylaw was implemented, 74 per cent of adult cyclists wore helmets. In 2010, that number grew to 80 per cent. In comparison, only 55 per cent of adults in Alberta wore helmets.

"There is strong evidence to support the role of helmet legislation in improving the rates of cycling helmet use in many communities," says Karkhaneh. "Successful implementation of helmet laws has occurred in Australia and in other parts of Canada. We're pleased to see proof of this right here in Alberta."

One of the main challenges with discussing universal bicycle helmet

legislation in Alberta is the prevalence of the myths that bicycle-helmet legislation is too difficult to enforce, and the belief that bicycle helmets do not reduce severe injuries, says Rowe.

"There is very strong evidence that the risk of head injuries related to bicycle crashes is directly related to the use of a Canadian Standards Association-approved cycling helmet," he says. "The proper use of a helmet reduces the risk of cycling injuries to the head, face and brain by up to 88 per cent."

Partial funding for the research was provided by Alberta Innovates – Health Solutions. ■

talks & events

Talks & Events listings do not accept submissions via fax, mail, email or phone. Please enter events you'd like to appear in folio and on Express News at: www.uofaweb.ualberta.ca/events/submit.cfm. A more comprehensive list of events is available online at www.events.ualberta.ca. Deadline: noon one week prior to publication. Entries will be edited for style and length.

Until June 24

The Last Best West: Glimpses of the Prairie Provinces from the Golden Age of Postcards. This exhibition of postcards is from the settlement and urbanization of the Canadian Northwest. The Peel's Prairie Provinces postcard collection contains thousands of fascinating and informative images, including personalized views of first houses, farms and family groups, as well as important events, disasters and buildings. Admission is free. Exhibition catalogues are available for \$25. Noon–4:30 p.m. Lower level, South Rutherford Library.

Until May 18

More Than Universal Design. This exhibition highlights the work of various faculties, including the Faculty of Extension, exploring, researching, teaching and training various aspects of Universa. Atrium (Main Floor) Enterprise Square. Gallery hours: 7 a.m.–11 p.m., Monday to Sunday

May 9 & 10

China and India/Global Power Shift/Opportunities for Canada and Alberta. This conference will examine the rapid economic growth of China and India with expert guest speakers from Alberta, Canada, India and China. Please see conference website for brochure and registration. www.uofaweb.ualberta.ca/ipe/ipe_conference_2011.cfm.

May 10

2011 Physical Activity Forum: Motivating Physical Activity Behaviour. The presentation will provide insights to practitioners and professionals about major developments in the field of human motivation, as applied to physical activity behaviour. Panel discussion to follow. 8:30 a.m.–noon. Lister Centre.

May 10

Finding Funding and Community of Science Database Demo. The first step in any successful grant application is finding appropriate funding opportunities. The aim of this workshop is to provide some suggestions for and facilitate finding appropriate funding opportunities for research activities. 11–11:55 a.m. 2F1.02 University of Alberta Hospital (Walter C. Mackenzie Health Sciences Centre). To register go to <http://rsoregistration.ualberta.ca/CourseDescription.do?courseid=4952>.

Global Health & Human Rights: Working with the 20th Century Legacy with Solomon Benatar. In the 20th century the world was greatly transformed by spectacular advances in science and medicine along with a major growth in the economy, yet it is also characterized by widening disparities in health, well-being and achievements of human rights. Such a world, shaped by powerful social and economic forces, has benefited a small proportion of the world's population maximally and the rest minimally, if at all. New ideas and action are required to achieve meaningful progress in health and human rights in the 21st century. 7:30 p.m. Convocation Hall (Old Arts Building) Arts and Convocation Hall.

May 11

The Elite Female Athlete: Putting the Evidence into Practice (part 2). Part two of a four-part series discussing applied information for those working with female athletes. This topic is "Injury." Dru Marshall, deputy provost, will moderate the discussion. U of A physician Connie Lebrun will give a talk entitled, "ACL injuries in female athletes: Risk and prevention." Pirkko Markula, professor in the Faculty of Physical Education and Recreation, will give a talk entitled, "Women athletes' experiences of injury and injury care." Vicki Harber, professor in the Faculty of Physical Education and Recreation, will talk about the "Healthy Panda" project. Noon–1:30 p.m. E120 Physical Education and Recreation Centre, Van Vliet.

May 12

David Peikoff Chair of Deaf Studies Research Lecture. Swiss sign-language expert Patricia Shores-Hermann will be on hand to give an overview of the sign language communities in Switzerland. 7–8:30 p.m. 2-115 Education North Education Centre.

May 13

"SEE the research at work" Seminar Series. Oil Sands Tailings Water Management: Treatment Approaches and their Applicability. Mohammed Gamal El-Din, professor in the Department of Civil and Environmental Engineering, will talk about water management for the sustainable development of the Athabasca oil sands in Alberta. Noon–1:30 p.m. Room 5-04; Stollery Executive Development Centre, Alberta School of Business.

Campus Sustainability Tour. Join us for a virtual and walking tour featuring sustainable practices

in our community at the U of A. The virtual tour starts at the Office of Sustainability, North Power Plant. This free walking tour run every two weeks during the spring and fall. Spaces for the tours are available on a first-come, first-served basis. Register for this tour by emailing: sustainability@ualberta.ca. 3–4:30 p.m. 470 General Services Building.

May 14

Educated Adventures – Tune & Cruise. Tune & Cruise is your opportunity to dust off that old bike, get out and become more comfortable riding. Bike mechanics will be on site to tune up and teach you about bicycle maintenance. After the maintenance workshop take a guided ride through the river valley with Karen Fox, professor of recreation and leisure studies. Learn about trail etiquette, stop at points of interest, and win prizes. Contact the bike library at ecos@su.ualberta.ca for information on bike loans. (This family friendly event is open to children on their own bikes who are eight years and up.) Register online through our website at www.ualberta.ca/alumni/educatedadventures. 2–4:30 p.m. Quad, U of A Campus. \$5 per person (children up to 12 free).

May 17

Retirement Celebration. The Retirement Celebration recognizes all academic and support staff members who have retired or who will retire from the University of Alberta within the 2011 calendar year. 3–6 p.m. Stollery Executive Development Centre, Alberta School of Business.

May 18

The Elite Female Athlete: Putting the Evidence into Practice (part 3). Part three in a four part series discussing applied information for those working with female athletes. This topic is "Psychology." Dru Marshall, deputy provost, will moderate the discussion. Grad student Camilla Knight will give a talk entitled, "Parent support of the female athlete." Grad student Katherine Tamminen will give a talk entitled, "Stress and coping among female athletes." Nick Holt, professor in the Faculty of Physical Education and Recreation, will give a talk entitled, "Female athletes' perceptions of conflict in sport." Noon–1:30 p.m. E120 Physical Education and Recreation Centre.

May 19

Department of Medicine Research Day. Join the Department of Medicine's Annual Research Day Oral

presentations and poster sessions. 8 a.m.–5 p.m. U of A Hospital (Walter C. Mackenzie Health Sciences Centre).

May 19

The Birth of a Clean Energy Superpower: Advancing Canada's Vision. CSMPT is the first centre of its kind in Canada, designed to support the sustainable development of natural resources Engineering professors Rick Chalaturnyk and Qingxia (Chad) Liu will discuss the work of the centre through research of carbon capture and storage, clean coal and mineral processing. 4:30–6:45 p.m., U of A Calgary Centre - 120, 333 5 Ave. SW, Calgary.

Cell Biology Recruit Candidate.

Gregory Fair, post-doctoral fellow with the Hospital for Sick Children in Toronto, will be on hand to give a talk entitled, "Membrane dynamics and organization in phagocytosis and cell polarity." 9:30–10:30 a.m. 628 Medical Sciences.

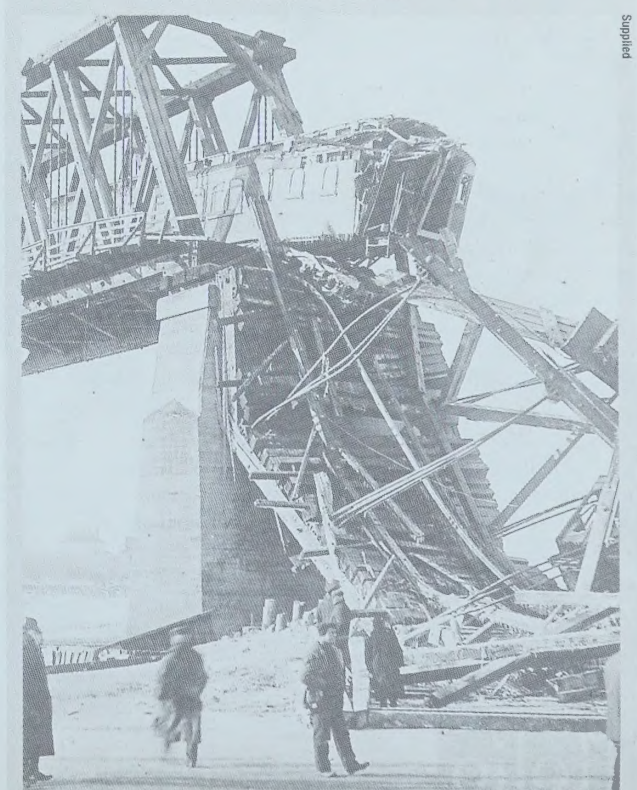
May 20 & 21

Material Culture, Craft and Community: Negotiating Objects Across Time and Place. This interdisciplinary conference will explore the varied expressions of craft—material, cultural, social—in past and present societies. Craft practice has a rich history and remains vibrant today, sustaining communities while negotiating cultures. The keynote speaker is Laurel Thatch, early America professor with Harvard University. 9 a.m.–5 p.m. TELUS Centre.

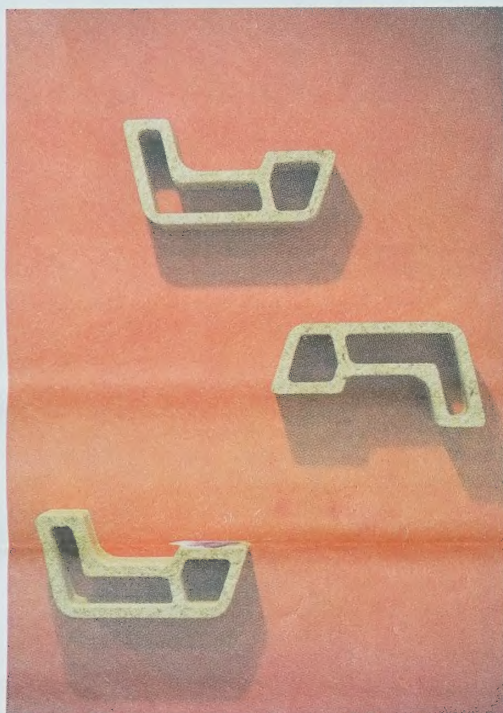
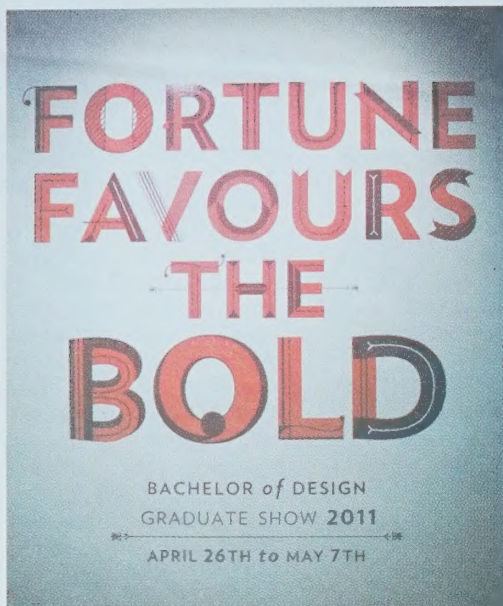
May 20

Communications and Technology Research Symposium 2011. This year our guest speaker is John Durham Peters, author of *Speaking into the Air: A History of the Idea of Communication*. This lecture on the convergence of new and ancient media aims to consider broadly the meaning of new communication practices for the human estate in our times. Noon–3:30 p.m. Gallery (main floor) Enterprise Square.

Close call



The Bruce Peel Special Collections Library is exhibiting "The Last Best West: Glimpses of the Prairie Provinces from the Golden Age of Postcards," until June 24.



Fortune Favours the Bold

Fortune Favours *The Bold* is the title of this year's Department of Art and Design's bachelor of design in visual communication design and industrial design graduating exhibition. The show features the work of 35 talented young artists and is presented in the Fine Arts Building Gallery from April 26–May 7. The gallery is open from 10 a.m.–5 p.m. from Tuesday to Friday and 2 p.m.–5 p.m. on Saturdays.



From Left to Right
Top row: Jordan Tomnuk, *Nietig* (chandelier) • Lawrence Ly, *Sealed Fusion*

Middle row: Janette Tong, *L – Racks* (shelving) • Alyssia Blenkin, *HI – Bird* (bird houses) • Amanda Greenough, *International Week* (poster design)

Bottom row: Mariya Karpenko, *The Lovely Soaps* (packaging design) • Lauren Sigvaldson, *Su Side Table*